# CLAIMS

I Claim:

1. A method for filling a container and providing a longer shelf life for a commodity packaged in said container wherein said container has a finish with an opening at one end for attaching a closure, a generally tubular body adjacent to said finish, and a base adjacent to said body that closes off an end of said body opposite said end of said body adjacent to said finish, wherein said closure has a member protruding into said opening, said method comprising the steps of:

preparing the container for filling;

filling the container with the commodity to a surface level;

allowing a headspace above said surface level sufficient to generally minimize spillage of the commodity while handling the container without the closure;

attaching the closure wherein the member displaces a portion of gases in said headspace; and

storing the container filled with the commodity.

2. The method of filling a container of Claim 1 further including the step of sealing the container after the step of attaching the closure is completed.

3. The method of filling a container of Claim 1 further including the step of heating the commodity to an elevated temperature.

4. The method of filling a container of Claim 3 wherein the step of attaching the closure is accomplished while the commodity remains generally at said elevated temperature.

5. The method of filling a container of Claim 4 further including the step of cooling said filed container with said commodity to substantially room temperature.

6. The method of filling a container of Claim 1 further including the step of heat-treating the commodity sealed in the container with one of an in-container pasteurization process and a retort process.

7. The method of filling a container of Claim 1 wherein said member penetrates said surface level and partially shifts a portion of the commodity while displacing said gases in said headspace.

8. The method for filling a container with a commodity that reduces structural stresses of said container resulting from changes in gas pressure within said container wherein said container has a finish with an opening at one end for attaching a closure, a generally tubular body adjacent to said finish, a base adjacent to said body that closes off an end of said body opposite said end of said body adjacent to said finish, and made substantially of a polyester material, wherein said closure has a member protruding into said opening, said method comprising the steps of:

preparing the container for filling;

filling the container with the commodity at an elevated temperature to a surface level;

allowing a headspace above said surface level sufficient to generally minimize spillage of the commodity while handling the container without the closure;

attaching the closure wherein the member displaces at least 25% of gases in said headspace;

cooling the container filled with the commodity to substantially room temperature; and

storing the container filled with the commodity.

9. The method of filling a container of Claim 8 further including the step of sealing the container after the step of attaching the closure is completed.

10. The method of filling a container of Claim 8 wherein said member penetrates said surface level and partially shifts a portion of the commodity while displacing said gases in said headspace.

11. A method for filling a container with a commodity that reduces structural stresses of said container resulting from changes in gas pressure within said container wherein said container has a finish with an opening at one end for attaching a closure, a generally tubular body adjacent to said finish, a base adjacent to said body that closes off an end of said body opposite said end of said body adjacent to said

finish, and made substantially of a polyester material, wherein said closure has a member protruding into said opening, said method comprising the steps:

preparing the container for filling;

filling the container with the commodity to a surface level;

allowing a headspace above said surface level sufficient to generally minimize spillage of the commodity while handling the container without the closure;

attaching the closure wherein the member displaces at least 25% of gases in said headspace;

heat-treating the container filled with the commodity with one of a pasteurization process and retort process;

cooling the container filled with the commodity to substantially room temperature; and

storing the container filled with the commodity

12. The method of filling a container of Claim 11 further including the step of sealing the container after the step of attaching the closure is completed.

13. The method of filling a container of Claim 11 wherein said member penetrates said surface level and partially shifts a portion of the commodity while displacing said gases in said headspace.

14. A method for filling a polyester container with a commodity wherein said container has a wide-mouth finish with a wide-mouth opening at one end for attaching a closure, a generally tubular body adjacent to said wide-mouth finish, and a base adjacent to said body that closes off an end of said body opposite said end of said body adjacent to said wide-mouth finish, wherein said closure has a member protruding into said opening, said method comprising the steps of:

preparing the container for filling;

filling the container with the commodity at an elevated temperature to a surface level;

allowing a headspace above said surface level sufficient to generally minimize spillage of the commodity while handling the container without the closure;

attaching the closure wherein the member displaces at least 25% of gases in said headspace; and

cooling the container filled with the commodity to substantially room temperature such that the container is generally free of noticeable distortion.

15. The method of filling a polyester container of Claim 14 further including the steps of sealing the container after the step of attaching the closure is completed and storing the container filled with the commodity after the step of cooling the container.

16. A closure and container combination, wherein said container contains a commodity and a headspace gas, and said closure displaces a portion of said headspace gas, comprising:

means for engaging said closure to a finish of said container;

a headspace-displacing member attached to said closure;

a clearance defined between said headspace-displacing member and said finish; and

means for sealing said closure against a sealing surface of said finish.

17. The closure and container combination of Claim 16 wherein said finish is wide-mouth.

18. The closure and container combination of Claim 16 wherein said headspace-displacing member displaces more than 25% of said headspace gas.

19. The closure and container combination of Claim 16 wherein said headspace-displacing member displaces more than 50% of said headspace gas.

20. The closure and container combination of Claim 16 wherein said headspace-displacing member displaces more than 75% of said headspace gas.

21. The closure and container combination of Claim 16 wherein said headspace-displacing member displaces more than 90% of said headspace gas.

22. The closure and container combination of Claim 16 wherein said headspace-displacing member displaces more than 95% of said headspace gas.

23. The closure and container combination of Claim 16 wherein said headspace-displacing member includes a hollow portion for housing an agent.

24. The closure and container combination of Claim 23 wherein said agent is at least one of an oxygen-scavenging agent, a desiccant drying agent, and an active-carbon agent.

25. The closure and container combination of Claim 24 wherein said oxygen-scavenging agent is at least one of an iron based compound and an ascorbic acid.

26. The closure and container combination of Claim 24 wherein said desiccant drying agent is at least one of silica and zeolite.

27. The closure and container combination of Claim 16 wherein said closure is made of a polymer containing an oxygen-scavenging compound.

28. The closure and container combination of Claim 16 wherein said container is made of a polymer.

29. The closure and container combination of Claim 28 wherein said polymer is generally heat-set.

30. The closure and container combination of Claim 28 wherein said polymer is polyester.

31. The closure and container combination of Claim 30 wherein said polyester is substantially one of a polyethylene terephthalate and a polyethylene terephthalate copolymer.